

SAFCA
LEGISLATIVE FRAMEWORK FOR FLOOD CONTROL AND
FLOOD RISK MANAGEMENT IN THE SACRAMENTO VALLEY
(Endorsed by SACOG - 4/20/06)

I. BACKGROUND

California is confronting the serious and complex challenge of reducing the risk of flooding and its associated liabilities during a period of rapid growth and development. This challenge is particularly pressing in the Sacramento Valley, where the State of California (State) and many cities, counties and local flood management agencies are confronting an unprecedented confluence of legal, historical, regulatory and fiscal conditions, including:

- The devastation of Hurricane Katrina along the Gulf Coast and in the City of New Orleans, which has underscored the vulnerability of urban developments in protected floodplains;
- The recent appellate decision Paterno v. State of California, which has greatly expanded California's common law of inverse condemnation and held the State liable for damages resulting from the failure of a federal project levee in Yuba County;
- The challenge of the State and local levee maintaining agencies to address design deficiencies in the aging system of levees, weirs, bypass channels, and reservoirs that comprises the federal Sacramento River Flood Control Project (SRFCP);
- Increasing urbanization behind portions of the federal levee system that have not been systematically evaluated for their performance and reliability; and
- Ongoing regulatory and fiscal constraints on the ability of the State and its local governmental partners to operate and maintain the system.

In response to these circumstances, the Legislature is urgently considering the steps that should be taken to reduce the risk of flooding and limit the State's liability for flood damages. Toward this end, this paper suggests that it would be wise to focus on the Sacramento Valley where the flood risks are most acute and the opportunities for risk reduction are most robust. The paper outlines the elements of a flood risk management plan for the SRFCP that recognizes the special demands imposed on the SRFCP by urban development; emphasizes the need for both structural and non-structural approaches to flood risk management; and identifies the elements of a financing strategy for achieving and maintaining the goals and objectives of the plan. The paper is intended to serve as a framework for shaping the legislation that is likely to be enacted this year on flood management issues in the Central Valley.

II. LEGISLATIVE FRAMEWORK

A. Identify the Elements of the State's Flood Risk Management Plan for the Sacramento Valley

The legislation should direct Department of Water Resources (DWR) to explicitly identify the fundamental documents that explain the development of the SRFCP. These documents should be used to create a single comprehensive description of the plan that identifies the State's expectations for the SRFCP. These expectations should be framed in the following manner:

- At its inception, the main purpose of the SRFCP was to reduce the risk of flooding on agricultural lands within the floodplains of the Sacramento River and its tributaries. Toward this end, SRFCP levees were designed to contain flows and water surface elevations roughly based on an evaluation of 1907 and 1909 floods. (referred to as the "1957 profile") with a relatively low risk of failure. The design was based on a minimum levee cross section and minimum freeboard above the design flood water surface profile. Levees meeting this minimum standard provide adequate protection to support agricultural/rural land uses but retain a residual risk that is not compatible with urban development.
- Several SRFCP protected floodplains are experiencing substantial urban development. These floodplains should be specifically designated as urban development areas and should be required to meet an urban levee standard that exceeds both the minimum requirements of the National Flood Insurance Program and the minimum non-urban design criteria of the SRFCP.
- The SRFCP's non-urban areas contain numerous small communities that are subject to substantial damage in the event of uncontrolled flooding. One of the long-term objectives of the State's flood control and flood risk management plan should be to enclose these communities within perimeter levees that at least meet the minimum requirements of the National Flood Insurance Program so as to preserve the economic viability of these communities.
- The residual risk of flooding in the urban and non-urban areas protected by SRFCP levees should be addressed by requiring the responsible cities and counties to develop and maintain effective emergency response programs and capabilities, and by requiring property owners in these areas to maintain flood insurance obtained through the National Flood Insurance Program. This insurance requirement should be considered a non-structural element of the State's plan.

B. Identify the Urban and Non-Urban Levees Comprising the SRFCP

Based on the above expectations, and as part of the description of the State plan, the legislation should direct DWR to identify the urban and non-urban levees comprising the SRFCP. The urban levees should be those that are protecting the portions of the Sacramento Valley that contain substantial urban developments such as: Sacramento, including Natomas; West Sacramento, including Southport; Woodland; Marysville, including Reclamation District 784; and the cities of Yuba City and Live Oak in Sutter County. The SRFCP levees protecting the areas of the Sacramento Valley that do not contain such developments should be identified as non-urban levees.

C. Establish a Minimum Design Standard for the SRFCP's Non-Urban Levees

The legislation should direct DWR to develop an appropriate minimum design standard for the SRFCP's non-urban levees. This standard should be similar to the existing SRFCP design standards but with an additional underseepage criterion that is less stringent than the urban area requirement.

D. Develop a Capital Improvement and Maintenance Program to Address Design Deficiencies in the SRFCP's Non-Urban Levees, Including Systemic Erosion and Sedimentation

Based on the minimum design standard, the legislation should direct DWR to complete a comprehensive evaluation of the SRFCP's non-urban levees, identify any design deficiencies, including systemic erosion and sedimentation and develop a capital improvement program to address these deficiencies, including systemic erosion and sedimentation. The legislation should anticipate that the actions needed to address systemic erosion and sedimentation will be carried out through a reauthorization of the Sacramento River Bank Protection Project and an expansion of the State's levee and channel maintenance program under Water Code Section 8361. The objectives of these programs should be to (1) improve the reliability of the non-urban levees consistent with the design of the SRFCP and (2) enhance the fish and wildlife habitat value of the river and stream channels confined by these levees.

E. Ensure that Non-Urban Levees are Properly Maintained

The legislation should seek to improve the maintenance of the SRFCP's non-urban levees by:

- Expanding the State's maintenance responsibilities to include the levees of the Sutter Bypass and the Yolo Bypass.

- Directing DWR to establish clear guidelines for non-urban levee maintenance based on the adopted minimum design standard for the SRFCP's non-urban levees.
- Requiring local districts to prepare regular reports (every two years) to the Reclamation Board on the condition of their levees.
- Directing DWR to work with the appropriate state and federal regulatory agencies to establish a habitat enhancement program for fish and wildlife habitat values, including mitigation banking, that will facilitate the permitting process for levee improvement and maintenance activities.
- Revamping the State's power to ensure compliance with the non-urban levee maintenance guidelines by providing financial assistance to cooperating local districts and streamlining the Reclamation Board's enforcement procedures.

F. Identify the Small Communities Occupying the SRFCP's Non-Urban Areas and Establish Policies and Design Standards for Protecting These Communities Over Time

The legislation should seek to limit the potential for inverse condemnation liability by directing DWR to identify the small communities occupying the SRFCP's non-urban areas and to develop appropriate policies and design standards for protecting these communities over time. The State's long-term goal should be to enclose these communities within perimeter levees that at least meet the minimum design standards of the National Flood Insurance Program and contribute to preserving the economic viability of the affected communities.

G. Establish Design Standards for the SRFCP's Urban Levees and Guidelines for Urban Development of SRFCP Protected Floodplains

The legislation should seek to limit new sources of inverse condemnation liability by imposing stricter requirements on urban development in floodplains protected by the SRFCP based on designating these floodplains as hazard zones for such development. Urbanization would be allowed in these zones only if the responsible land use agency prepares a flood risk management plan that addresses the following issues.

1. Require the SRFCP's Urban Levees to Safely Contain the Flows and Water Surface Elevations Produced by an Urban Standard Flood (USF)

The legislation should direct DWR to develop guidelines for urban standard flood protection. These guidelines should establish a water surface profile for the SRFCP "urban standard flood" derived from estimates, developed in connection with the Sacramento-San Joaquin River Basins Comprehensive Study, of the water surface elevations produced by a 200-year flood. Based

on this urban standard flood profile, the guidelines should identify appropriate levee freeboard, stability, underseepage, and erosion standards. Local land use agencies desiring to proceed with urban development in an SRFCP protected floodplain would be required to indicate, as part of their adopted risk management plan, how this new State standard will be achieved over time. Assuming the process for developing the engineering, environmental, and financial elements of the plan and its expected implementation timeline are reasonable and feasible, local agencies would be permitted to proceed with development based on meeting applicable National Flood Insurance Program requirements during the time period when the local jurisdiction is working to achieve urban standard flood protection.

2. Complete a Comprehensive Evaluation of the Levees Protecting the Urbanizing Areas

The local risk management plan should provide reasonably current data that are sufficient in scope to demonstrate how the levees protecting the urbanizing floodplain will meet existing National Flood Insurance Program requirements while the local entity is working to meet the State's more rigorous urban standard flood requirements. These data should be a product of a comprehensive evaluation of the affected levees that addresses all applicable levee freeboard, stability, underseepage and erosion standards, including the geotechnical guidelines of the Corps, Sacramento District Standard Operating Procedure: Geotechnical Levee Practice (August 2004). This evaluation should also serve as the basis for identifying the steps needed to achieve urban standard flood protection.

3. Ensure that SRFCP Levees Protecting Urban Development are Maintained in Accordance with Urban Standards

The legislation should direct DWR to clarify the guidelines applicable to maintenance of SRFCP levees protecting urban development. These guidelines should address all aspects of urban levee maintenance, including seepage evaluation and erosion control and should include provisions to enhance fish and wildlife habitat values in the affected river and stream channels.

4. Ensure that Urban Development in SRFCP protected floodplains does not Increase the Peak Flow of Stormwater Discharged from the District When River Flows Equal or Exceed the Design of the SRFCP

Since urban development has the potential to alter the infiltration capacity of agricultural land and change the drainage patterns of the protected floodplain, the local risk management plan should also indicate how the urbanizing area will be designed to ensure that there is no net increase in the peak flow of stormwater discharged from the floodplain when flows in the SRCP system equal or exceed the design of the system.

5. **Require Local Agencies to Develop a Flood Emergency Response Plan, including Floodplain Evacuation**

Most SRFCP protected floodplains are subject to deep flooding in the event of a levee failure. In order to prevent unnecessary injuries and loss of life in such an event, the local risk management plan should contain appropriate provisions addressing the location and design of critical health and public safety facilities, and plans for emergency response and floodplain evacuation.

H. Update the Guidelines Governing the State's Regulation of the SRFCP's Urban and Non-Urban Floodways

The legislation should direct DWR to work with the Reclamation Board to update the guidelines governing the State's regulation of the SRFCP's urban and non-urban floodways consistent with the State plan. The updated guidelines should identify goals and policies for sound floodplain management, flood conveyance, erosion control, levee stability and levee maintenance, including guidelines for riparian habitat, public recreation, and riverfront development as floodway encroachments. This effort should take advantage of the accomplishments of the Sacramento River Planning Forum.

I. Continue to Invest in the Capital Improvements Necessary to Reduce the Risk of Flooding in the Urban Areas Protected by the SRFCP

Since the flood of 1986, the State and federal governments have made substantial investments in improvements to the SRFCP that will reduce the risk of flooding in the urban areas protected by the SRFCP. This effort is being carried out in partnership with local agencies supporting development in these areas. The legislation should reaffirm the State's commitment to sponsor the SRFCP improvement projects that are needed to provide urban standard flood protection to the urbanizing areas of the Sacramento Valley.

J. Ensure that Occupants of Areas Protected by the SRFCP have Adequate Notice of the Risk of Flooding in their Area

Consistent with applicable real estate disclosure requirements, the legislation should declare that the risk of flooding to structures located in SRFCP protected floodplains and their contents is a material fact to be disclosed in all real estate transactions involving property in these areas, whether urban or non-urban. In addition, the legislation should require cities and counties to cooperate with local flood management districts in providing occupants of SRFCP protected floodplains with regular notice (at least annually) regarding the risk of flooding in their area as well as any progress which has been made in reducing that risk.

K. Preserve Agricultural Open Space in the Areas Upstream and Immediately Downstream of the Fremont Weir

The State plan should encourage the preservation of agricultural open space in the areas upstream and immediately downstream of the Fremont Weir, which are likely to absorb some of the impact of extreme flood events that exceed the conveyance capacity of non-urban levees. This could be accomplished through the acquisition of flowage/conservation easements, augmented by a complementary habitat enhancement program on the affected lands that is consistent with adopted regional Habitat Conservation Plans and Natural Community Conservation Plans where applicable.

L. Require all Property Owners in Areas Protected by SRFCP Levees to Carry Flood Insurance

Flood insurance obtained through the federally backed NFIP is the most reasonable mechanism for equitably distributing the relatively low risk but potentially catastrophic consequences of flooding in the areas protected by the SRFCP. Accordingly, the legislation should require all property owners in SRFCP protected floodplains to maintain NFIP flood insurance policies covering the estimated replacement value of all structures and contents with a replacement value in excess of \$50,000. This flood insurance requirement should be viewed as a key non-structural element of the State's plan and the legislation should direct DWR to develop an appropriate plan for enforcing this requirement. This could be accomplished by:

- Including notice of this requirement in the annual notice of flood risk issued by local districts to property owner in SRFCP protected floodplains,
- Directing insurance companies to notify these property owners regarding the flood insurance requirement in connection with any other insurance transaction affecting the property, and
- Requiring banks and mortgage companies doing business in California to ensure that any mortgage issued on property in a SRFCP floodplain is backed by NFIP flood insurance.

The premiums paid for such policies would vary depending on risk of damage, structure value, and degree of coverage. In order to reduce the resulting cost burden on property owners in the non-urban areas, the legislation should provide appropriate mechanisms to offset this cost.

M. Update the National Flood Insurance Program (NFIP) Maps Covering the Floodplains Protected by the SRFCP

It is widely recognized that the NFIP flood insurance maps that currently govern development and flood insurance requirements in the floodplains protected by the SRCFP are outdated. The legislation should direct DWR to

proceed expeditiously to update these maps based on the best available hydrologic, hydraulic, geotechnical, and maintenance information.

N. Clarify the Standards for Inter-Governmental Liability for Flood Damage Claims in Areas Protected by the SRFCP and Provide the Tools Necessary to Manage this Liability

Governmental liability for flood damages in areas protected by the SRFCP is based on common law principles of inverse condemnation. Under these principles, California courts have held government liable when a flood control project, as designed, constructed, operated, and maintained, exposes a landowner to an unreasonable risk of harm. Where the government is found to be liable, the extent of the damages depends on the extent of the development in the protected area. This approach has created two problems that should be addressed by the legislation. First, in determining what constitutes an “unreasonable risk of harm” courts have cited an increasingly unwieldy list of criteria that tends to confuse rather than clarify governmental and landowner responsibilities. Second, because the responsibilities for SRFCP design, SRFCP maintenance and protected area land use are distributed among different levels of government, it is difficult to develop an effective risk management program. The legislation should address these problems by clarifying the statutory grounds for holding government liable for flood damage claims in areas protected by the SRFCP and providing the affected governmental agencies with the tools necessary to manage this liability.

The legislation should indicate that the considerations for determining whether property owners may hold the government liable for flood damages in a SRFCP floodplain are:

- Whether the damages resulted from a reasonably foreseeable structural or operational deficiency in the flood control project that the government had a reasonable opportunity to correct;
- Whether the government made a reasonable effort to ensure that the affected property owners were made aware of the risks associated with owning property in a protected floodplain; and
- Whether the government provided reasonable mechanisms for equitably distributing the financial risks borne by the property owners due to the potential for flooding.

With respect to providing the tools necessary to manage this liability, as discussed above, the legislation should:

- Direct DWR to develop appropriate design standards for SRFCP facilities that distinguish between the flood protection needs of urban and rural areas and allow the affected governmental agencies to identify structural and operational deficiencies;

- Outline a comprehensive flood risk management plan tied to these design standards that promotes appropriate land-use planning in SRFCP protected floodplains and augments the structural protections provided to property owners in these floodplains with a mandatory flood insurance requirement; and
- Create a financing plan for the SRFCP that provides the capital needed to achieve the adopted design standards for SRFCP facilities and the ongoing funding needed to operate and maintain these facilities.

The legislation should not attempt to address the problem of governmental liability for flood damages by altering the current scheme of inter-governmental indemnification that has grown up in connection with the SRFCP. Under this scheme, by agreement with the Federal Government, the State has accepted responsibility for operating and maintaining SRFCP levees and related facilities and for holding the Federal Government harmless for any damages associated with these facilities. The State has in turn entered into a series of agreements with local levee maintenance and flood management agencies pursuant to which these agencies have agreed to carry out the State's operation and maintenance responsibilities and to hold the State harmless for any damages associated with these facilities.

Local agencies which control land use in SRFCP floodplains have no contractual basis for holding the State harmless for flood damages because they do not control the operation and maintenance of SRFCP facilities. It would be inappropriate to abandon this historically fruitful separation of functions. Rather, as discussed above, the relationship between land use and the potential scope of flood damages should be managed by establishing reasonable standards governing land use in SRFCP protected floodplains.

O. Amend the State Constitution to Exempt Local Property Assessments for SRFCP Levee Maintenance and Improvement from the Voting Requirements of Proposition 218

The passage of Proposition 218, which amended the State Constitution by popular initiative, has made it very difficult for local flood management agencies in urban and non-urban areas protected by SRFCP levees to raise the funds needed to improve and maintain these levees. The Legislature should support efforts to include local assessments for SRFCP levee maintenance and improvement activities on the list of fees and charges that are exempt from any voting requirements under Proposition 218. This would substantially increase the authority of local districts to address their levee maintenance and improvement needs and reduce the risk of flood damages and claims against the State and local government.

III. FINANCIAL CONSIDERATIONS

The actions called for in the proposed legislation would require a significant increase in funding for technical studies; improvements to SRFCP facilities; more extensive levee maintenance, inspection and oversight activities; emergency preparedness; flood insurance and easement acquisition. The legislation should provide appropriate mechanisms for meeting these needs as discussed below.

A. State Infrastructure Bonds

The Legislature is currently considering asking California voters to approve the issuance of infrastructure bonds to finance flood control and other water resource related activities. As set forth in AB 1839 and SB 1166, these would be designated as the "2006 Bond" and "2010 Bond". The 2006 bond authorizes \$540 million in spending for improvements and activities related to the SRFCP and to the state plan of flood protection in the San Joaquin Valley. The 2010 Bond authorizes an additional \$600 million for these purposes. In their present form, AB 1839 and SB 1166 call for these funds to be expended for certain designated purposes with certain local-State cost-sharing arrangements. Although the language of these bills appears to anticipate revision of the standards governing the State plan for flood protection, portions of the bills need to be revised to strengthen the linkage between the bills' designated purposes and the achievement of these standards. In particular, the bills should be crafted to serve the state's interest in facilitating urban standard protection for the urbanizing areas of the SRFCP while ensuring that deficiencies in the system's non-urban levees, determined by reference to the adopted design standard for these levees, are remedied over time.

B. SRFCP Benefit Assessment District

At the outset of the 2005 legislative year, the Legislature considered a proposal to create a new benefit assessment district covering all of the property within the drainage area of the Central Valley. This proposal was part of a larger package of flood control and flood risk reduction measures contained in AB 1665 that failed to generate enough support to become law despite last minute efforts to gut the main provisions of the bill including the assessment district. AB 1665 is likely to be revised and resubmitted for consideration in the current session. If the bill calls for a benefit assessment district, the scope of the district should be limited to property owners in the Sacramento Valley who benefit from the protection of the SRFCP. Such a district could provide funding for the following purposes: (1) satisfying the local cost-sharing requirements of the infrastructure Bonds, (2) improving the SRFCP's urban and non-urban levees consistent with the design standards established by the State's plan, (3) protecting the small communities exposed to flooding in the SRFCP's non-urban areas, (4) initiating a flood insurance offset program in the rural areas protected by the

SRFCP, (5) acquiring flowage/conservation easements to create overflow areas that also preserve prime farmland and its associated habitat value in rural areas upstream of the Fremont Weir, (6) providing support for funding forecast-based reservoir operations, and (7) building a reserve fund for flood emergencies. The district would be formed by the State.

Property owners would be assessed on an annual basis using assessment principles already authorized by the California Water Code for flood control activities. Under these principles, property owners in protected urban floodplains would provide the bulk of the assessment district's revenue. Property owners in protected non-urban floodplains would be assessed at substantially lower rates. In addition, in order to increase the funds available to the district for acquiring flowage/conservation easements and pursuing the other purposes outlined above, development impact fees could be imposed on all new development in the district that converts agricultural and habitat land to urban use.

C. Federal Participation

Over the next ten to fifteen years, the Federal Government is expected to make significant contributions to funding the federal share of the cost of modifying Folsom Dam and completing federally authorized levee improvements around the Sacramento area so as to provide this area, which contains more than 60 percent of the damageable property value in SRFCP protected floodplains, with urban standard flood protection. Additional federal contributions will also be needed to cover the federal share of the cost of authorized federal projects aimed at providing urban standard protection to urbanizing areas in Yuba and Yolo Counties. Because of the magnitude of these efforts, the demand for federal financial assistance is likely to exceed historic federal funding capabilities. Accordingly, the legislation should expressly permit the State and its local partners to negotiate cost-sharing agreements with the Army Corps of Engineers that contain appropriate credit/reimbursement provisions and anticipate substantial upfront expenditures by the non-federal interests to initiate SRFCP facility improvements. The Federal Government would provide additional funding for completing this work and would reimburse the State for expenditures in excess of the mandated non-federal share. These reimbursements could be used to create a reserve fund and augment the funding available for levee design deficiency and channel maintenance work.

In addition, the legislation should call upon the Federal Government to reauthorize the Sacramento River Bank Protection Program. The purpose of this federal program would be to enhance fish and aquatic habitat values in the SRFCP's streams and channels so as to complement the State's design deficiency/channel maintenance program.

D. Support from State Water Project and Central Valley Project Beneficiaries

The channel and bank improvements needed to maintain the stability of SRFCP levees could be funded in part by the beneficiaries of the State Water Project (SWP) and the Central Valley Project (CVP) based on the adverse impacts of these projects on the integrity of these levees. These projects have helped to create a new flow regime in the main stem rivers that produces consistently lower spring and higher summer flows geared to the demands of urban and agricultural water customers. This altered flow regime in turn supports a growing use of the rivers for recreation, including boating activities that contribute to the destabilization of SRFCP levees by generating persistent wake driven waves that act as a chronic source of bank and levee erosion. The effort needed to address this chronic erosion is thus attributable in part to the SWP and CVP. The legislation should direct DWR to develop recommendations as to how the beneficiaries of these projects could contribute to this effort.

E. Support from Boaters Using the Waterways of the Delta and the SRFCP

The use of SRFCP waterways for boating and related recreation is a benefit provided in part by the operation of the SWP and CVP and the Delta and SRFCP levee systems. Because of the detrimental impact of boat wakes on these systems, it is reasonable to expect boaters to contribute to the cost of the channel and bank improvements needed to maintain these systems. Accordingly, the legislation should direct DWR to consider developing a program under which users of the waterways of the SRFCP contribute to the maintenance costs associated with boating impacts.